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BETTER LIGHT FOR MARYLAND FARM HOMES

by

Albert V. Krewatch

UNIVERSITY OF MARYLAND
EXTENSION SERVICE
COLLEGE PARK, MD

Cooperative Extension Work in Agriculture and Home Economics,
Extension Service, University of Maryland, and
United States Department of Agriculture, Cooperating,

T. B. SYMONS, Director

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BETTER LIGHT FOR MARYLAND FARM HOMES

by
Albert V. Krewatch
Specialist in Agricultural Engineering

Better lighting is still one of the great needs of farm families. It probably contributes more than any other single item to their comfort and happiness. Artificial light is used by every member several hours every day.

The problem of good lighting cannot be reduced to a set of standardized rules, but there are certain fundamental principles which must be observed if the best illumination is to be secured at all times of the day or night. It is the purpose of this circular to suggest these principles. They apply to any type of illumination whether oil, gas or electric.

WHY YOU NEED THE PROPER AMOUNT OF LIGHT

Seeing is actually a complex process involving not only the eyes themselves but light, nerves, muscles, mind and even the heart. We do not see with our eyes alone -- we see with our whole body. We used to think that when we strained our eyes, we harmed only our eyes, but medical science now knows that when we use our eyes under poor seeing conditions we harm the entire nervous system and physical self.

Correct Lighting

You need general light throughout the room as well as local lighting at centers of reading, sewing and writing. You usually need more light to sew than read. Reading with a bright light on the page and the rest of the room in darkness often causes unnecessary fatigue and eye strain. The arrangement of furniture for the convenience of all persons is just as important as the arrangement of floor, table, wall or ceiling lamps.

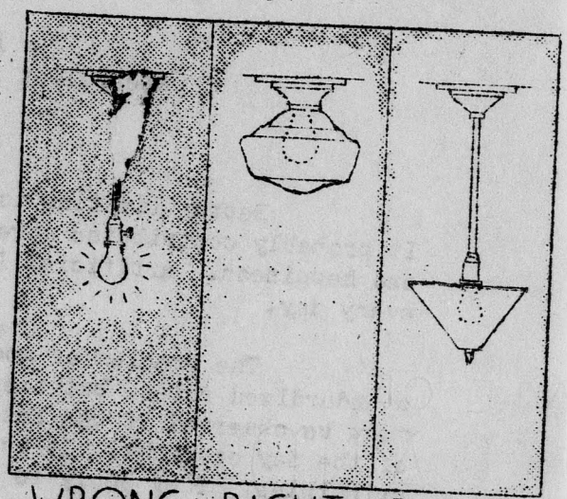
Remember The Children

School children behave better and do better work in a well-lighted school room. It is desirable to have at home a properly lighted place for them to play, read and study. If your child has to hold his book closer than 14 inches, the chances are he is straining his eyes.

Defective Vision Requires Care

While good lighting is important for normal eyes, it is even more helpful to defective eyes. They are already handicapped, have abnormal needs and benefit in a large degree from improved lighting. However, good light is not a substitute for an eye specialist.

AVOID GLARE



Glare is produced when lamps are not shaded properly or when the shade is improperly adjusted. You can avoid glare by:

(1) shading all bulbs

(2) using lamps that are the correct height, to prevent glare from the bulb as you walk into the room or as you sit by the lamp

(3) using dull finishes for walls and woodwork

(4) providing a soft diffused light throughout the room rather than a very bright light on the task and no light in the rest of the room

(5) placing the lamp and chair so that the light comes over the shoulder without casting a shadow on the work. (For reading with the new indirect light, place the lamp either on the right or left. For writing, place the lamp so there is no shadow, depending whether the person uses the right or left hand)

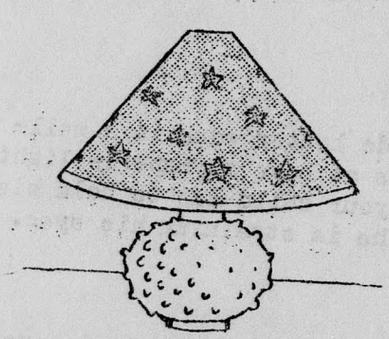
USE LAMPS THAT GIVE GOOD LIGHT

You can buy new lamps which:

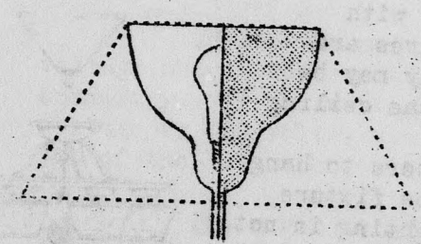
(1) give the recommended amount of light as indicated by the "light meter" *

(2) have diffusing glass bowls which minimize glare from the bulb or from shiny paper

(3) have shades with light colored linings, shades, the color of which blends with the wall and room furnishings



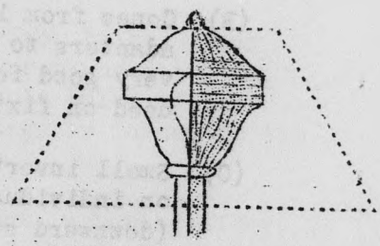
(4) have shades with open tops that give general illumination, as well as light on the task -- a very necessary distribution of light for a well lighted room and for the greater restfulness of the eyes and body. When we look off from a printed page directly under a light into some darkened corner of the room we ar giving more work to the iris of the eye that controls the amount of light entering the eye. There should be at least one tenth the amount of light in the room as there is on your task



White glass diffusing bowl for floor and study lamps open at top

(5) have shades that flare so that light is shed over a large area to give light more usefully

(6) have the height desired to give the kind of light you need at a particular place in the room, without glare, and that looks well with other furnishings



New prismatic directors for low end-table lamps prevent glare from the top

GOOD LIGHTING NEED NOT BE EXPENSIVE

The average rural family uses about 25 kilowatt-hours of electricity per month to light the home. Efficient fixtures, lamps, and shades will give good illumination at a minimum cost.

Many farm homes are being wired with too few outlets, or the outlets are not placed to the best advantage. Much money, as well as your eyes, can be saved by proper planning before the wiremen start work. Your home demonstration agent or county agent have information to give you about lighting requirements and needs. The home service representative of the electric utility will be glad to help you with your problems or plan your lighting. Adequate wiring at first will eliminate the expense and inconvenience of necessary outlets later and will prevent hazards caused by lamp cords running here, there and everywhere. You may wish to study these problems more carefully at home lighting schools and demonstrations being conducted by your State Extension Service.

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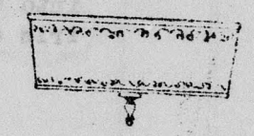
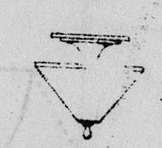
* A footcandle is the unit of measure of light. One footcandle is the amount of light that would fall on an object placed one foot away from an ordinary tallow candle. There are approximately 60 footcandles of light at a distance of one foot from a 40-watt Mazda lamp, at 2 feet there are only 15 footcandles and at 3 feet, 6 footcandles.

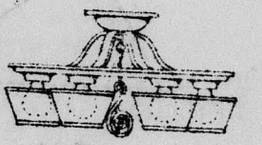
RENOVATING OLD LIGHTING FIXTURES

Houses already equipped with older types of fixtures can make good use of newly developed inexpensive equipment for remodeling. Very satisfactory results can be obtained.

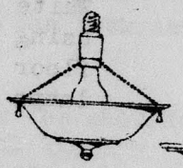
(A) Drums made complete with wired 2, 3 or 5 socket plates, or the drums may be purchased separately to fit any existing shower type fixture; sizes 12 to 30 inches in diameter

(B) Cones from 12 to 18 inches in diameter with adapters to fit 1, 2 or 3 socket fixtures are very good for bedrooms and halls. They may be used on fixtures that hang down from the ceiling



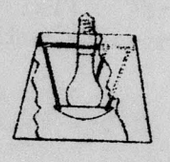
(C) Small inverted candle shades with fitters to hang on individual lamp bulbs in shower-type fixture (downward sockets); the quality of lighting is not quite as good as when a drum is used, but a greater quantity of light is given beneath the fixture



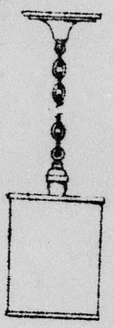
(D) Adapter fixtures which can be easily attached to cover existing ceiling sockets, and both modernize the appearance of the room and greatly improve the lighting result



(E) Adapter and shade for bridge lamps, section of which is shown, eliminates glare and raw light from the conventional type of bridge lamp



(F) Parchment cylinders of various sizes which can be used to cover wall brackets or single socket drop cord fixture in hallways and over breakfast tables



KNOW SOME FACTS ABOUT EYE HEALTH AND BETTER LIGHT

The pupils of our eyes become smaller as we grow older, and need increasing amounts of light to compensate for the decrease in ability to see.

Though we do less manual labor now, it is estimated that we use our eyes for severe visual tasks thirty per cent more than was commonly done a generation ago.

It takes much more light to read a newspaper than a well printed book and sewing is generally much harder on the eyes than reading.

Seek the best daylight possible without glare by raising window shades, by using sheer curtain materials and by freeing windows of furniture and plants.

Arrange the furniture so there are comfortable places with good light by day and so that each person has enough light for his particular task at night.

Remember that dark walls, woodwork and furnishings absorb light, and that with them you will need to use more electricity to get the required amount of light.

To get the most light and longest service from bulbs, their voltage should correspond to that of the electric current used in the community. If the voltage is 115 volts, use a 115 volt bulb; if the voltage is 120 volts, use a 120 volt bulb. The voltage is marked on the tip of the bulb along with the wattage.

The quickest and easiest way to better sight is better light. Provide the amount of light needed for each member of the family. Have your lamps tested with a "light meter" which measures the light your lamps give. Recommended intensities are as follows:

1. General, kitchen and moderate tasks	-	10 - 20 footcandles *
2. Ordinary reading	-	10 - 20 footcandles
3. Studying - average sewing	-	20 - 50 footcandles
4. Sewing - fine work	-	50 - 100 footcandles

These recommendations will vary depending upon the condition of the eyes and the tasks to be done. The new type lamps using 100 and 150 watt bulbs can be depended upon to produce between 50 footcandles (fairly close to the lamp) and 10 to 15 footcandles (about 3 feet away)

ADDITIONAL INFORMATION

"Recommended Farm Lighting Practices", Rural Electrification Series No. 5, will give you detailed recommendations for each room in the house and all types of farm buildings.

"Furnishing The Home For Better Living" by Miss Florence H. Mason, Home Furnishings Specialist, gives suggestions for the desirable arrangement of lamps and fixtures in order to make your home lighting both comfortable and decorative.

This information can be obtained from your county home demonstration agent or county agent or write to the Extension Service, University of Maryland, College Park, Maryland.

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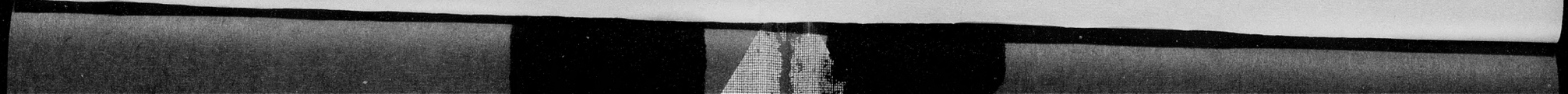

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HOW TO PLAN YOUR ELECTRIC WIRING

by

Albert V. Krewatch

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